**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Casey, William
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-027559
**Date Inspected:** 07-May-2012

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 700
**OSM Departure Time:** 1730
**Location:** Job Site

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| **CWI Name:** | As noted below | | | **CWI Present:** | ☑ Yes | ☐ No | |
| **Inspected CWI report:** | ☐ Yes | ☑ No | ☐ N/A | **Rod Oven in Use:** | ☑ Yes | ☐ No | ☐ N/A |
| **Electrode to specification:** | ☑ Yes | ☐ No | ☐ N/A | **Weld Procedures Followed:** | ☑ Yes | ☐ No | ☐ N/A |
| **Qualified Welders:** | ☑ Yes | ☐ No | ☐ N/A | **Verified Joint Fit-up:** | ☑ Yes | ☐ No | ☐ N/A |
| **Approved Drawings:** | ☑ Yes | ☐ No | ☐ N/A | **Approved WPS:** | ☑ Yes | ☐ No | ☐ N/A |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A |

**Bridge No:** 34-0006
**Component:** SAS OBG

**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

12E PP109.5 E2-TS (Interior)

This QA Inspector performed Magnetic Particle (MT) testing on the Transverse Stiffener (TS) and the East Longitudinal Stiffener (LSE) of the Deck Access Hole (DAH) located at 12E PP109.5 E2 on the interior of the OBG. This QA Inspector performed MT testing utilizing the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications. This QA Inspector performed an Ultrasonic (UT) inspection on approximately 10% of the welds on the LSE. These welds were previously accepted by QC Ultrasonic technicians in accordance with AWS D1.5-2002, section 6, table 6.3. This QA observed no rejectable indications at the time of testing. This QA generated a TL-6027 UT report on this date. The completed work observed at this location appeared to be in compliance with the contract specifications.

13W PP122.2-124.7 W2.8 (Exterior)

This QA Inspector observed QC Inspector John Pagliero verify prior to the start of the fillet weld operation, that the minimum preheat temperature as per the approved WPS was established; and afterword's verified that the

welding parameters (Amps and Travel Speed) were in accordance with ABF-WPS-D1.5-1040C-CU using E7018 3.2mm diameter electrodes drawing amperage of 127. This QA Inspector observed ABF welder Steve Davis (ID 7889) performing the root and fill pass weld operation per the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on the (top side) of the Deck Plate Drop-in Section on Segment 13W along Grid Line W2.8 from y+100mm to y+12500mm. The welder was observed cleaning the start/stop edges of the work with a small disc grinder and compressed air between passes as the QC Inspector measured the inter-pass temperatures. This QA Inspector noted that the 3.2mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. This QA Inspector made subsequent observations to monitor quality and noted that the production welding by Mr. Davis was in progress at y+100mm to 12500mm and the work at the W2.8 line appeared to be in general conformance with the contract documents.

13E PP119.7 E5-PS-5 (Exterior)

This QA Inspector made random observations of ABF welder Eric Sparks (ID 3040) performing the SMAW process in the 2F horizontal position on PS-5 angle brackets to “A” deck at 13E PP119.7 E5 on the exterior of the OBG. The 6mm fillet welds were observed to be in the all-around length of the brackets and QC Inspector John Pagliero was present to perform a Visual Inspection (VT) of the work upon completion at each location. This QA Inspector observed QC Inspector John Pagliero verify prior to the start of the fillet weld operation, that the minimum preheat temperature as per the approved WPS was established; and afterword’s verified that the welding parameters (Amps and Travel Speed) were in accordance with ABF-WPS-D1.5-F1200A using E7018 3.2mm diameter electrodes drawing amperage of 127. On subsequent observations, further locations that were completed were recorded as; 13E PP121, PP122.2 and PP123.3. The completed work at these locations was found to be in general conformance with the contract specifications.

8W PP61.5 W2-TS/LSE (Interior)

This QA Inspector performed Magnetic Particle (MT) testing on the Transverse Stiffener (TS) and the East Longitudinal Stiffener (LSE) of the Deck Access Hole (DAH) located at 8W PP61.5 W2 on the interior of the OBG. This QA Inspector performed MT testing utilizing the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications. This QA Inspector performed an Ultrasonic (UT) inspection on approximately 10% of the welds on the TS and the LSE. These welds were previously accepted by QC Ultrasonic technicians in accordance with AWS D1.5-2002, section 6, table 6.3. This QA observed no rejectable indications at the time of testing. This QA generated a TL-6027 UT report on this date. The completed work observed at this location appeared to be in compliance with the contract specifications.

**Summary of Conversations:**

There were no pertinent conversations today.

# WELDING INSPECTION REPORT

*( Continued Page 3 of 3 )*


**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

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| **Inspected By:** | Frey,Doug | Quality Assurance Inspector |
| **Reviewed By:** | Levell,Bill | QA Reviewer |